

REMARKS

By this amendment, claims 1, 12, 13, and 14 are amended, claims 2-11 are canceled without prejudice or disclaimer, and claims 15-40 have been added. These amendments are made to even more clearly recite the claimed invention, do not add prohibited new matter and are fully supported by the specification. Support for these amendments may be found, for example, on pages 1-4, 6, 8-10, and 22-25, of the specification. Specifically, Applicants believe that support for the following elements of the claims may be found at the following page numbers and paragraph numbers (in corresponding U.S. Patent Application Publication US 2006/0089395).

Claim 1

page 3, paragraph [0012]

Definition of E

- (1) a 2,5-di-substituted phenyl group at least one of said substituent is trifluoromethyl group

Page 2, Paragraph [0010], item (8).

- (2) a 3,5-di-substituted phenyl group at least one of said substituent is trifluoromethyl group

Page 2, Paragraph [0010], item (8).

- (3) a 2-thiazolyl group which is substituted with one or more substituents

Pages 1-2, Paragraph [0009].

→ "A monocyclic heteroaryl group which may be substituted" is defined as a group represented by "E."

Pages 4, Paragraph [0040].

→ The "2-thiazolyl group" is exemplified as an example of the "monocyclic heteroaryl group."

Page 10, Paragraph [0104].

→ The following explanations are described for the definition of the substituents of the functional group.

“In the present specification, when a certain functional group is defined as ‘which may be substituted,’ the definition means that the functional group may sometimes have one or more substituents at chemically substitutable positions, unless otherwise specifically mentioned. Kind of substituents, number of substituents, and the position of substituents existing in the functional groups are not particularly limited, and when two or more substituents exist, they may be the same or different.”

Definition of the substituents existing in the aforementioned “2-thiazolyl group”

Page 10, Paragraph [0104].

→The following explanations are described for the definition of the substituents existing in the functional group.

“Examples of the substituent existing in the functional group include, for example, halogen atoms, oxo group, thioxo group, nitro group, nitroso group, cyano group, isocyano group, cyanato group, thiocyanato group, isocyanato group, isothiocyanato group, hydroxy group, sulfanyl group, carboxy group, sulfanylcarbonyl group, oxalo group, methooxalo group, thiocarboxy group, dithiocarboxy group, carbamoyl group, thiocarbamoyl group, sulfo group, sulfamoyl group, sulfinio group, sulfinamoyl group, sulfeno group, sulfenamoyl group, phosphono group, hydroxyphosphonyl group, hydrocarbon group, heterocyclic group, hydrocarbon-oxy group, heterocyclic ring-oxy group, hydrocarbon-sulfanyl group, heterocyclic ring-sulfanyl group, acyl group, amino group, hydrazino group, hydrazono group, diazenyl group, ureido group, thioureido group, guanidino group, carbamoimidoyl group (amidino group), azido group, imino group, hydroxyamino group, hydroxyimino group, aminooxy group, diazo group, semicarbazino group, semicarbazono group, allophanlyl group, hydantoyl group, phosphano group, phosphoroso group, phospho group, boryl group, silyl group, stannyl group, selanyl group, oxido group and the like.”

(4) a halogen atom

Page 10, Paragraph [0104].

→The "halogen atom" is exemplified as an example of the substituent existing in the functional group.

(5) an alkyl group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The "hydrocarbon group" is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The "aliphatic hydrocarbon group" is exemplified as an example of the "hydrocarbon group."

Page 3, Paragraph [0019].

→The "alkyl group" is exemplified as an example of the "aliphatic hydrocarbon group."

(6) a carboxy group (existing in the aforementioned "alkyl group")

Page 10, Paragraph [0104].

→The "carboxy group" is exemplified as an example of the substituent existing in the functional group.

(7) an alkoxy-carbonyl group (existing in the aforementioned "alkyl group")

Page 10, Paragraph [0104].

→The "acyl group" is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω -2A) is exemplified as an example of the "acyl group."

Page 9, Paragraph [0080].

→The "hydrocarbon-oxy-carbonyl group" is exemplified as an example of the group represented by the formula (ω -2A).

Page 6, Paragraph [0049].

→The "alkoxy group" is exemplified as an example of the "hydrocarbon-oxy group."

(8) a halogenated alkyl group

Page 10, Paragraph [0105].

→The following explanations are described for the definition of the substituents existing in the functional group.

”The above substituents according to the aforementioned definition of "which may be substituted" may further be substituted with the aforementioned substituents at the chemically substitutable positions on the substituent. Kind of substituents, number of substituents, and positions of substituents are not particularly limited, and when the substituents are substituted with two or more substituents, they may be the same or different.”

Page 10, Paragraph [0104].

→The "hydrocarbon group" is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The "aliphatic hydrocarbon group" is exemplified as an example of the "hydrocarbon group.”

Page 3, Paragraph [0019].

→The "alkyl group" is exemplified as an example of the "aliphatic hydrocarbon group.”

Page 10, Paragraph [0104].

→The "halogen atom" is exemplified as an example of the substituent existing in the functional group.

(9) a cyano group

Page 10, Paragraph [0104].

→The "cyano group" is exemplified as an example of the substituent existing in the functional group.

(10) an aryl group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The "hydrocarbon group" is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The "aryl group" is exemplified as an example of the "hydrocarbon group."

(11) a halogen atom (existing in the aforementioned "aryl group")

Page 10, Paragraph [0104].

→The "halogen atom" is exemplified as an example of the substituent existing in the functional group.

(12) a halogenated alkyl group (existing in the aforementioned "aryl group")

According to the aforementioned (8), the "halogenated alkyl group" is thought to be an example of the substituent existing in the functional group.

(13) an alkoxy group (existing in the aforementioned "aryl group")

Page 10, Paragraph [0104].

→The "hydrocarbon-oxy group" is exemplified as an example of the substituent existing in the functional group.

Page 6, Paragraph [0049].

→The "alkoxy group" is exemplified as an example of the "hydrocarbon-oxy group."

(14) an alkyl-carbonyl group

Page 10, Paragraph [0104].

→The "acyl group" is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω -1A) is exemplified as an example of the "acyl group."

Page 9, Paragraph [0079].

→The "hydrocarbon-carbonyl group" is exemplified as an example of the group represented by the formula (ω -1A).

Page 3, Paragraph [0018].

→The "aliphatic hydrocarbon group" is exemplified as an example of the "hydrocarbon group."

Page 3, Paragraph [0019].

→The "alkyl group" is exemplified as an example of the "aliphatic hydrocarbon group."

(15) an alkoxy-carbonyl group

According to the aforementioned (7), the "alkoxy-carbonyl group" is thought to be an example of the substituent existing in the functional group.

(16) a monocyclic non-aromatic heterocyclic group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The "heterocyclic group" is exemplified as an example of the substituent existing in the functional group.

Page 4, Paragraph [0043].

→The "monocyclic non-aromatic heterocyclic group" is exemplified as an example of the "heterocyclic group."

(17) an alkyl group (existing in the aforementioned "monocyclic non-aromatic heterocyclic group")

According to the aforementioned (5), the "alkyl group" is thought to be an example of the substituent existing in the functional group.

(18) an aryl group (existing in the aforementioned "monocyclic non-aromatic heterocyclic group")

According to the aforementioned (10), the "aryl group" is thought to be an example of the substituent existing in the functional group.

(19) an aralkyl group

Page 10, Paragraph [0104].

→The "hydrocarbon group" is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The "alkyl group" is exemplified as an example of the "hydrocarbon group."

(20) an aryl-carbonyl group

Page 10, Paragraph [0104].

→The "acyl group" is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω -1A) is exemplified as an example of the "acyl group."

Page 9, Paragraph [0079].

→The "hydrocarbon-carbonyl group" is exemplified as an example of the group represented by the formula (ω -1A).

Page 3, Paragraph [0018].

→The "aryl group" is exemplified as an example of the "hydrocarbon group."

(21) a carbamoyl group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The "carbamoyl group" is exemplified as an example of the substituent existing in the functional group.

(22) an alkyl group (existing in the aforementioned "carbamoyl group")

According to the aforementioned (5), the "alkyl group" is thought to be an example of the substituent existing in the functional group.

(23) an aralkyl group (existing in the aforementioned "carbamoyl group")

According to the aforementioned (19), the "aralkyl group" is thought to be an example of the substituent existing in the functional group.

(24) a carboxy group

Page 10, Paragraph [0104].

→The "carboxy group" is exemplified as an example of the substituent existing in the functional group.

Definition of Z

Pages 2, Paragraph [0010], item (4).

→ "A benzene ring which may have one or more substituents" is defined as a group represented by "Z."

Page 10, Paragraph [0104].

→ The following explanations are described for the definition of the substituents of the functional group.

"In the present specification, when a certain functional group is defined as 'which may be substituted,' the definition means that the functional group may sometimes have one or more substituents at chemically substitutable positions, unless otherwise specifically mentioned. Kind of substituents, number of substituents, and the position of substituents existing in the functional groups are not particularly limited, and when two or more substituents exist, they may be the same or different."

Definition of the substituents existing in the aforementioned "benzene ring"

Page 10, Paragraph [0104].

→ The following explanations are described for the definition of the substituents existing in the functional group.

"Examples of the substituent existing in the functional group include, for example, halogen atoms, oxo group, thioxo group, nitro group, nitroso group, cyano group, isocyano group, cyanato group, thiocyanato group, isocyanato group, isothiocyanato group, hydroxy group, sulfanyl group, carboxy group, sulfanylcabonyl group, oxalo group, methooxalo group, thiocarboxy group, dithiocarboxy group, carbamoyl group, thiocarbamoyl group, sulfo group, sulfamoyl group, sulfino group, sulfinamoyl group, sulfeno group, sulfenamoyl group, phosphono group, hydroxyphosphonyl group, hydrocarbon group, heterocyclic group, hydrocarbon-oxy group, heterocyclic ring-oxy group, hydrocarbon-sulfanyl group, heterocyclic ring-sulfanyl group, acyl group, amino group, hydrazino group, hydrazono group, diazenyl group, ureido group, thioureido group, guanidino group, carbamoimidoyl group (amidino group), azido group, imino group, hydroxyamino group, hydroxyimino group, aminooxy group, diazo group,

semicarbazino group, semicarbazono group, allophanyl group, hydantoyl group, phosphano group, phosphoroso group, phospho group, boryl group, silyl group, stannyl group, selanyl group, oxido group and the like.”

(25) a halogen atom

Page 10, Paragraph [0104].

→The “halogen atom” is exemplified as an example of the substituent existing in the functional group.

(26) a nitro group

Page 10, Paragraph [0104].

→The “nitro group” is exemplified as an example of the substituent existing in the functional group.

(27) a cyano group

Page 10, Paragraph [0104].

→The “cyano group” is exemplified as an example of the substituent existing in the functional group.

(28) a hydroxy group

Page 10, Paragraph [0104].

→The “hydroxy group” is exemplified as an example of the substituent existing in the functional group.

(29) an alkoxy group

Page 10, Paragraph [0104].

→The “hydrocarbon-oxy group” is exemplified as an example of the substituent existing in the functional group.

Page 6, Paragraph [0049].

→The “alkoxy group” is exemplified as an example of the “hydrocarbon-oxy group.”

(30) an alkyl group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aliphatic hydrocarbon group” is exemplified as an example of the “hydrocarbon group.”

Page 3, Paragraph [0019].

→The “alkyl group” is exemplified as an example of the “aliphatic hydrocarbon group.”

(31) a hydroxy group (existing in the aforementioned “alkyl group”)

Page 10, Paragraph [0104].

→The “hydroxy group” is exemplified as an example of the substituent existing in the functional group.

(32) an aralkyl-oxy-imino group (existing in the aforementioned “alkyl group”)

Page 10, Paragraph [0105].

→The following explanations are described for the definition of the substituents existing in the functional group.

“The above substituents according to the aforementioned definition of ‘which may be substituted’ may further be substituted with the aforementioned substituents at the chemically substitutable positions on the substituent. Kind of substituents, number of substituents, and positions of substituents are not particularly limited, and when the substituents are substituted with two or more substituents, they may be the same or different.”

Page 10, Paragraph [0104].

→The “imino group” is exemplified as an example of the substituent existing in the functional group.

Page 10, Paragraph [0104].

→The “hydrocarbon-oxy group” is exemplified as an example of the substituent existing in the functional group.

Page 6, Paragraph [0049].

→The “aralkyl-oxy group” is exemplified as an example of the “hydrocarbon-oxy group.”

(33) an alkoxy-imino group (existing in the aforementioned “alkyl group”)

Page 10, Paragraph [0105].

→The following explanations are described for the definition of the substituents existing in the functional group.

“The above substituents according to the aforementioned definition of ‘which may be substituted’ may further be substituted with the aforementioned substituents at the chemically substitutable positions on the substituent. Kind of substituents, number of substituents, and positions of substituents are not particularly limited, and when the substituents are substituted with two or more substituents, they may be the same or different.”

Page 10, Paragraph [0104].

→The “imino group” is exemplified as an example of the substituent existing in the functional group.

Page 10, Paragraph [0104].

→The “hydrocarbon-oxy group” is exemplified as an example of the substituent existing in the functional group.

Page 6, Paragraph [0049].

→The “alkoxy group” is exemplified as an example of the “hydrocarbon-oxy group.”

(34) an alkenyl group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aliphatic hydrocarbon group” is exemplified as an example of the “hydrocarbon group.”

Page 3, Paragraph [0019].

→The “alkenyl group” is exemplified as an example of the “aliphatic hydrocarbon group.”

(35) an aryl group (existing in the aforementioned “alkenyl group”)

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aryl group” is exemplified as an example of the “hydrocarbon group.”

(36) a cyano group (existing in the aforementioned “alkenyl group”)

Page 10, Paragraph [0104].

→The “cyano group” is exemplified as an example of the substituent existing in the functional group.

(37) an alkoxy-carbonyl group (existing in the aforementioned “alkenyl group”)

Page 10, Paragraph [0104].

→The “acyl group” is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω -2A) is exemplified as an example of the “acyl group.”

Page 9, Paragraph [0080].

→The “hydrocarbon-oxy-carbonyl group” is exemplified as an example of the group represented by the formula (ω -2A).

Page 6, Paragraph [0049].

→The “alkoxy group” is exemplified as an example of the “hydrocarbon-oxy group.”

(38) a carboxy group (existing in the aforementioned “alkenyl group”)

Page 10, Paragraph [0104].

→The “carboxy group” is exemplified as an example of the substituent existing in the functional group.

(39) an alkynyl group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aliphatic hydrocarbon group” is exemplified as an example of the “hydrocarbon group.”

Page 3, Paragraph [0019].

→The “alkynyl group” is exemplified as an example of the “aliphatic hydrocarbon group.”

(40) an aryl group (existing in the aforementioned “alkynyl group”)

According to the aforementioned (35), the “aryl group” is thought to be an example of the substituent existing in the functional group.

(41) a tri(alkyl)silyl group (existing in the aforementioned “alkynyl group”)

Page 10, Paragraph [0105].

→The following explanations are described for the definition of the substituents existing in the functional group.

“The above substituents according to the aforementioned definition of ‘which may be substituted’ may further be substituted with the aforementioned substituents at the chemically substitutable positions on the substituent. Kind of substituents, number of substituents, and positions of substituents are not particularly limited, and when the substituents are substituted with two or more substituents, they may be the same or different.”

Page 10, Paragraph [0104].

→The “silyl group” is exemplified as an example of the substituent existing in the functional group.

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aliphatic hydrocarbon group” is exemplified as an example of the “hydrocarbon group.”

Page 3, Paragraph [0019].

→The “alkyl group” is exemplified as an example of the “aliphatic hydrocarbon group.”

(42) a halogenated alkyl group

Page 10, Paragraph [0105].

→The following explanations are described for the definition of the substituents existing in the functional group.

“The above substituents according to the aforementioned definition of ‘which may be substituted’ may further be substituted with the aforementioned substituents at the chemically substitutable positions on the substituent. Kind of substituents, number of substituents, and positions of substituents are not particularly limited, and when the substituents are substituted with two or more substituents, they may be the same or different.”

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aliphatic hydrocarbon group” is exemplified as an example of the “hydrocarbon group.”

Page 3, Paragraph [0019].

→The “alkyl group” is exemplified as an example of the “aliphatic hydrocarbon group.”

Page 10, Paragraph [0104].

→The “halogen atom” is exemplified as an example of the substituent existing in the functional group.

(43) an aryl group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aryl group” is exemplified as an example of the “hydrocarbon group.”

(44) a halogen atom (existing in the aforementioned “aryl group”)

Page 10, Paragraph [0104].

→The “halogen atom” is exemplified as an example of the substituent existing in the functional group.

(45) a halogenated alkyl group (existing in the aforementioned “aryl group”)

According to the aforementioned (42), the “halogenated alkyl group” is thought to be an example of the substituent existing in the functional group.

(46) an aralkyl group

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aralkyl group” is exemplified as an example of the “hydrocarbon group.”

(47) a monocyclic or a fused polycyclic heteroaryl group which may be substituted with one or more alkyl groups

Page 10, Paragraph [0104].

→The “heterocyclic group” is exemplified as an example of the substituent existing in the functional group.

Page 4, Paragraph [0043].

→The “a monocyclic or a fused polycyclic heteroaryl group” is exemplified as an example of the “heterocyclic group.”

(48) an alkyl group (existing in the aforementioned “monocyclic or fused polycyclic heteroaryl group”)

According to the aforementioned (30), the “alkyl group” is thought to be an example of the substituent existing in the functional group.

(49) an alkyl-carbonyl group

Page 10, Paragraph [0104].

→The “acyl group” is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω -1A) is exemplified as an example of the “acyl group.”

Page 9, Paragraph [0079].

→The “hydrocarbon-carbonyl group” is exemplified as an example of the group represented by the formula (ω -1A).

Page 3, Paragraph [0018].

→The “aliphatic hydrocarbon group” is exemplified as an example of the “hydrocarbon group.”

Page 3, Paragraph [0019].

→The “alkyl group” is exemplified as an example of the “aliphatic hydrocarbon group.”

(50) a monocyclic non-aromatic heterocyclic-carbonyl group which may be substituted with one or more aralkyl groups

Page 10, Paragraph [0104].

→The “acyl group” is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω -1A) is exemplified as an example of the “acyl group.”

Page 9, Paragraph [0079].

→The “heterocyclic ring-carbonyl group” is exemplified as an example of the group represented by the formula (ω -1A).

Page 10, Paragraph [0104].

→The “heterocyclic group” is exemplified as an example of the substituent existing in the functional group.

Page 4, Paragraph [0043].

→The “monocyclic non-aromatic heterocyclic group” is exemplified as an example of the “heterocyclic group.”

(51) an aralkyl group (existing in the aforementioned “monocyclic non-aromatic heterocyclic-carbonyl group”)

According to the aforementioned (46), the “aralkyl group” is thought to be an example of the substituent existing in the functional group.

(52) a monocyclic heteroaryl-sulfonyl group

Page 10, Paragraph [0104].

→The “acyl group” is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω-20A) is exemplified as an example of the “acyl group.”

Page 10, Paragraph [0099].

→The “heterocyclic ring-sulfonyl group” is exemplified as an example of the group represented by the formula (ω-20A).

Page 10, Paragraph [0104].

→The “heterocyclic group” is exemplified as an example of the substituent existing in the functional group.

Page 4, Paragraph [0043].

→The “monocyclic heteroaryl group” is exemplified as an example of the “heterocyclic group.”

(53) a carboxy group

Page 10, Paragraph [0104].

→The “carboxy group” is exemplified as an example of the substituent existing in the functional group.

(54) an alkoxy-carbonyl group

According to the aforementioned (37), the “alkoxy-carbonyl” is thought to be an example of the substituent existing in the functional group.

(55) a carbamoyl group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The “carbamoyl group” is exemplified as an example of the substituent existing in the functional group.

(56) an aryl group (existing in the aforementioned “carbamoyl group”)

According to the aforementioned (35), the “aryl group” is thought to be an example of the substituent existing in the functional group.

(57) an alkyl group (existing in the aforementioned “carbamoyl group”)

According to the aforementioned (30), the “alkyl group” is thought to be an example of the substituent existing in the functional group.

(58) a sulfamoyl group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The “carbamoyl group” is exemplified as an example of the substituent existing in the functional group.

(59) an aryl group (existing in the aforementioned “sulfamoyl group”)

According to the aforementioned (35), the “aryl group” is thought to be an example of the substituent existing in the functional group.

(60) an alkyl group (existing in the aforementioned “sulfamoyl group”)

According to the aforementioned (30), the “alkyl group” is thought to be an example of the substituent existing in the functional group.

(61) an amino group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The “amino group” is exemplified as an example of the substituent existing in the functional group.

(62) an alkyl group (existing in the aforementioned “amino group”)

According to the aforementioned (30), the “alkyl group” is thought to be an example of the substituent existing in the functional group.

(63) an alkyl-carbonyl group (existing in the aforementioned “amino group”)

According to the aforementioned (49), the “alkyl-carbonyl group” is thought to be an example of the substituent existing in the functional group.

(64) an aryl-carbonyl group (existing in the aforementioned “amino group”)

Page 10, Paragraph [0104].

→The “acyl group” is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω -1A) is exemplified as an example of the “acyl group.”

Page 9, Paragraph [0079].

→The “hydrocarbon-carbonyl group” is exemplified as an example of the group represented by the formula (ω -1A).

Page 3, Paragraph [0018].

→The “aryl group” is exemplified as an example of the “hydrocarbon group.”

(65) an alkyl-sulfonyl group (existing in the aforementioned “amino group”)

Page 10, Paragraph [0104].

→The “acyl group” is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω -20A) is exemplified as an example of the “acyl group.”

Page 10, Paragraph [0099].

→The “hydrocarbon-sulfonyl group” is exemplified as an example of the group represented by the formula (ω -20A).

Page 3, Paragraph [0018].

→The “aliphatic hydrocarbon group” is exemplified as an example of the “hydrocarbon group.”

Page 3, Paragraph [0019].

→The “alkyl group” is exemplified as an example of the “aliphatic hydrocarbon group.”

(66) an aryl-sulfonyl group (existing in the aforementioned “amino group”)

Page 10, Paragraph [0104].

→The “acyl group” is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω -20A) is exemplified as an example of the “acyl group.”

Page 10, Paragraph [0099].

→The “hydrocarbon-sulfonyl group” is exemplified as an example of the group represented by the formula (ω -20A).

Page 3, Paragraph [0018].

→The “aryl group” is exemplified as an example of the “hydrocarbon group.”

(67) an ureido group which may be substituted with one or more aryl groups

Page 10, Paragraph [0104].

→The “ureido group” is exemplified as an example of the substituent existing in the functional group.

(68) an aryl group (existing in the aforementioned “ureido group”)

According to the aforementioned (35), the “aryl group” is thought to be an example of the substituent existing in the functional group.

(69) a thioureido group which may be substituted with one or more aryl groups

Page 10, Paragraph [0104].

→The “thioureido group” is exemplified as an example of the substituent existing in the functional group.

(70) an aryl group (existing in the aforementioned “thioureido group”)

According to the aforementioned (35), the “aryl group” is thought to be an example of the substituent existing in the functional group.

(71) a diazenyl group which may be substituted with one or more aryl groups

Page 10, Paragraph [0104].

→The “diazenyl group” is exemplified as an example of the substituent existing in the functional group.

(72) an aryl group (existing in the aforementioned “diazenyl group”)

According to the aforementioned (35), the “aryl group” is thought to be an example of the substituent existing in the functional group.

(73) a nitro group (existing in the aforementioned “aryl group”)

Page 10, Paragraph [0104].

→The “nitro group” is exemplified as an example of the substituent existing in the functional group.

(74) a monocyclic heteroaryl-sulfamoyl group (existing in the aforementioned “aryl group”)

Page 10, Paragraph [0105].

→The following explanations are described for the definition of the substituents existing in the functional group.

“The above substituents according to the aforementioned definition of ‘which may be substituted’ may further be substituted with the aforementioned substituents at the chemically substitutable positions on the substituent. Kind of substituents, number of substituents, and positions of substituents are not particularly limited, and when the substituents are substituted with two or more substituents, they may be the same or different.”

Page 10, Paragraph [0104].

→The “sulfamoyl group” is exemplified as an example of the substituent existing in the functional group.

Page 10, Paragraph [0104].

→The “heterocyclic group” is exemplified as an example of the substituent existing in the functional group.

Page 4, Paragraph [0043].

→The “monocyclic heteroaryl group” is exemplified as an example of the “heterocyclic group.”

Claim 12

Page 3, Paragraph [0012].

Claim 13

Page 3, Paragraph [0012].

Claim 14

Page 3, Paragraph [0012].

Claim 16

Definition of the “other substituent” existing in the “2,5-di-substituted phenyl group”

(1) a halogen atom

Page 10, Paragraph [0104].

→The “halogen atom” is exemplified as an example of the substituent existing in the functional group.

(2) a halogenated alkyl group

Page 10, Paragraph [0105].

→The following explanations are described for the definition of the substituents existing in the functional group.

“The above substituents according to the aforementioned definition of ‘which may be substituted’ may further be substituted with the aforementioned substituents at the chemically substitutable positions on the substituent. Kind of substituents, number of substituents, and positions of substituents are not particularly limited, and when the substituents are substituted with two or more substituents, they may be the same or different.”

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aliphatic hydrocarbon group” is exemplified as an example of the “hydrocarbon group.”

Page 3, Paragraph [0019].

→The “alkyl group” is exemplified as an example of the “aliphatic hydrocarbon group.”

Page 10, Paragraph [0104].

→The “halogen atom” is exemplified as an example of the substituent existing in the functional group.

(3) a nitro group

Page 10, Paragraph [0104].

→The “nitro group” is exemplified as an example of the substituent existing in the functional group.

(4) an alkyl group

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aliphatic hydrocarbon group” is exemplified as an example of the “hydrocarbon group.”

Page 3, Paragraph [0019].

→The “alkyl group” is exemplified as an example of the “aliphatic hydrocarbon group.”

(5) an alkoxy group

Page 10, Paragraph [0104].

→The “hydrocarbon-oxy group” is exemplified as an example of the substituent existing in the functional group.

Page 6, Paragraph [0049].

→The “alkoxy group” is exemplified as an example of the “hydrocarbon-oxy group.”

(6) an alkyl-sulfanyl group

Page 10, Paragraph [0104].

→The “hydrocarbon-sulfanyl group” is exemplified as an example of the substituent existing in the functional group.

Page 7, Paragraph [0064].

→The “alkyl-sulfanyl group” is exemplified as an example of the “hydrocarbon-sulfanyl group.”

(7) a monocyclic non-aromatic heterocyclic group which may be substituted with one or more halogenated alkyl groups

Page 10, Paragraph [0104].

→The “heterocyclic group” is exemplified as an example of the substituent existing in the functional group.

Page 4, Paragraph [0043].

→The “monocyclic non-aromatic heterocyclic group” is exemplified as an example of the “heterocyclic group.”

(8) a halogenated alkyl group (existing in the aforementioned “monocyclic non-aromatic heterocyclic group”)

According to the aforementioned (2), the “halogenated alkyl group” is thought to be an example of the substituent existing in the functional group.

(9) an aryl-oxy group which may be substituted with one or more substituents

Page 10, Paragraph [0104].

→The “hydrocarbon-oxy group” is exemplified as an example of the substituent existing in the functional group.

Page 6, Paragraph [0049].

→The “aryl-oxy group” is exemplified as an example of the “hydrocarbon-oxy group.”

(10) a halogen atom (existing in the aforementioned “aryl-oxy group”)

Page 10, Paragraph [0104].

→The “halogen atom” is exemplified as an example of the substituent existing in the functional group.

(11) an alkoxy group (existing in the aforementioned “aryl-oxy group”)

According to the aforementioned (5), the “alkoxy group” is thought to be an example of the substituent existing in the functional group.

(12) an alkyl group (existing in the aforementioned “aryl-oxy group”)

According to the aforementioned (4), the “alkyl group” is thought to be an example of the substituent existing in the functional group.

(13) a cyano group (existing in the aforementioned “aryl-oxy group”)

Page 10, Paragraph [0104].

→The “cyano group” is exemplified as an example of the substituent existing in the functional group.

(14) a halogenated alkoxy group

Page 10, Paragraph [0105].

→The following explanations are described for the definition of the substituents existing in the functional group.

“The above substituents according to the aforementioned definition of ‘which may be substituted’ may further be substituted with the aforementioned substituents at the chemically substitutable positions on the substituent. Kind of substituents, number of substituents, and positions of substituents are not particularly limited, and when the substituents are substituted with two or more substituents, they may be the same or different.”

Page 10, Paragraph [0104].

→The “hydrocarbon-oxy group” is exemplified as an example of the substituent existing in the functional group.

Page 6, Paragraph [0049].

→The “alkoxy group” is exemplified as an example of the “hydrocarbon-oxy group.”

Page 10, Paragraph [0104].

→The “halogen atom” is exemplified as an example of the substituent existing in the functional group.

Claim 17

Definition of E

Page 23, Paragraphs [0234]-[0235].

→All the groups described in claim 17 are supported by the description in the tables described on pages 26-81.

Definition of Z

Page 22, Paragraphs [0226]-[0227].

→All the groups described in claim 17 are supported by the description in the tables described on pages 26-81.

Claim 20

Definition of R^z

Page 3, Paragraph [0017].

→The “bromine atom” is exemplified as an example of the “halogen atom.”

Claim 23

Definition of the “other substituent” existing in the “3,5-di-substituted phenyl group”

(1) a halogenated alkyl group

Page 10, Paragraph [0105].

→The following explanations are described for the definition of the substituents existing in the functional group.

“The above substituents according to the aforementioned definition of ‘which may be substituted’ may further be substituted with the aforementioned substituents at the chemically substitutable positions on the substituent. Kind of substituents, number of substituents, and positions of substituents are not particularly limited, and when the substituents are substituted with two or more substituents, they may be the same or different.”

Page 10, Paragraph [0104].

→The “hydrocarbon group” is exemplified as an example of the substituent existing in the functional group.

Page 3, Paragraph [0018].

→The “aliphatic hydrocarbon group” is exemplified as an example of the “hydrocarbon group.”

Page 3, Paragraph [0019].

→The “alkyl group” is exemplified as an example of the “aliphatic hydrocarbon group.”

Page 10, Paragraph [0104].

→The “halogen atom” is exemplified as an example of the substituent existing in the functional group.

(2) a halogen atom

Page 10, Paragraph [0104].

→The “halogen atom” is exemplified as an example of the substituent existing in the functional group.

(3) an alkoxy group

Page 10, Paragraph [0104].

→The “hydrocarbon-oxy group” is exemplified as an example of the substituent existing in the functional group.

Page 6, Paragraph [0049].

→The “alkoxy group” is exemplified as an example of the “hydrocarbon-oxy group.”

(4) an alkoxy-carbonyl group

Page 10, Paragraph [0104].

→The “acyl group” is exemplified as an example of the substituent existing in the functional group.

Page 8, Paragraph [0078].

→The group represented by the formula (ω -2A) is exemplified as an example of the “acyl group.”

Page 9, Paragraph [0080].

→The “hydrocarbon-oxy-carbonyl group” is exemplified as an example of the group represented by the formula (ω -2A).

Page 6, Paragraph [0049].

→The “alkoxy group” is exemplified as an example of the “hydrocarbon-oxy group.”

(5) a carboxy group

Page 10, Paragraph [0104].

→The “carboxy group” is exemplified as an example of the substituent existing in the functional group.

Claim 24

Definition of E

Pages 23-24, Paragraphs [0239]-[0240].

→All the groups described in claim 24 are supported by the description in the tables described on pages 26-81.

[Definition of Z]

Page 22, Paragraphs [0226]-[0227].

→All the groups described in claim 24 are supported by the description in the tables described on pages 26-81.

Claim 27

Definition of R^z

Page 3, Paragraph [0017].

→The “chlorine atom” is exemplified as an example of the “halogen atom.”

Claim 30

Definition of E

Pages 24-25, Paragraphs [0249]-[0252].

→All the groups described in claim 30 are supported by the description in the tables described on pages 26-81.

Definition of Z

Page 22, Paragraphs [0226]-[0227].

→All the groups described in claim 30 are supported by the description in the tables described on pages 26-81.

Claim 37

Definition of the compound

The compound defined in claim 37 is identical with the compound defined in claim 20.

Claim 39

Definition of the compound

The compound defined in claim 39 is identical with the compound defined in claim 27.

Objections to the Specification

The Office Action objects to the Abstract because the Abstract includes legal phrases and exceeds the 150 word limit. In response, Applicants note the Abstract has been amended to remove legal phrases and comply with the word limit. Applicants respectfully request withdrawal of the objection.

Claim Rejections under 35 U.S.C. § 112, first paragraph

The Office Action rejects claims 1-14 under 35 U.S.C. § 112, first paragraph, for allegedly failing to satisfy the enablement requirement. The Examiner asserts that, while the specification enables treatment of chronic rheumatism, the specification does not provide enablement for *prevention* of chronic rheumatism. Without agreeing with or acquiescing to the rejection, Applicants note that the claims have been amended to remove the term “preventing.” Applicants respectfully request withdrawal of the rejection.

Double Patenting Rejection

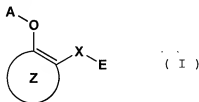
The Office Action rejects claims 1-14 on the ground of nonstatutory obviousness-type double patenting over claims 1-11 of copending Application No. 10/516,292 in view of Takeuchi et al. (WO 01/12588, hereinafter “TAKEUCHI”) and its English language equivalent EP 1219596.

In response, Applicants note the filing of the attached executed Terminal Disclaimer relating to U.S. Patent Application No. 10/516,292. By such filing, neither Applicants nor the assignee make any admissions as to the propriety of the rejections of claims 1-14 under the judicially created doctrine of obviousness-type double patenting or as to the propriety of any other double patenting

rejection. Rather, Applicants are filing the attached Terminal Disclaimer to expedite the allowance of the claims of the present application.

The Office Action also rejects claims 1-14 on the ground of nonstatutory obviousness-type double patenting over claims 1-25 of copending Application No. 10/515,622 in view of Takeuchi et al. (WO 01/12588) and its English language equivalent EP 1219596.

Applicants note that the claims of the '622 application recite:

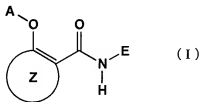


wherein X represents a group represented by the following formula :



and wherein E represents an aryl group which may be substituted or a heteroaryl group which may be substituted. While dependent claims further limit the E substituent in the '622 application, the present claims would not be obvious over the '622's claims.

That is, the present claims recite:



wherein E represents a 2,5-di-substituted phenyl group wherein at least one of said substituents is trifluoromethyl group,

a 3,5-di-substituted phenyl group wherein at least one of said substituents is trifluoromethyl group, or

a 2-thiazolyl group which is substituted with one or more substituents selected from the group consisting of

a halogen atom,
an alkyl group which may be substituted with one or more substituents selected from the group consisting of

a carboxy group and
an alkoxy-carbonyl group,
a halogenated alkyl group,
a cyano group,
an aryl group which may be substituted with one or more substituents selected from the group consisting of

a halogen atom,
a halogenated alkyl group and
an alkoxy group,
an alkyl-carbonyl group,
an alkoxy-carbonyl group,
a monocyclic non-aromatic heterocyclic group which may be substituted with one or more substituents selected from the group consisting of

an alkyl group and
an aryl group,
an aralkyl group,
an aryl-carbonyl group,
a carbamoyl group which may be substituted with one or more substituents selected from the group consisting of

an alkyl group and
an aralkyl group, and
a carboxy group. The present claims, and in particular the recited E substituents, would not be obvious over the '622 application. Although the generic formulas in these claims are similar, the functional groups recited in the present claims and the claims of the '622 application are completely distinct. Therefore, Applicants submit that the present claims would not be obvious in view of the

claims of the '622 application, and respectfully request withdrawal of the obviousness-type double patenting rejection.

Claim Rejections under 35 U.S.C. § 102(b)

The Office Action rejects claims 1-14 under 35 U.S.C. § 102(b) as being anticipated by TAKEUCHI and its English language equivalent EP 1219596. Without agreeing with or acquiescing to the rejection, Applicants note that the claims have been amended, and the compounds disclosed in TAKEUCHI neither anticipate nor render obvious the claimed genus of compounds.

Applicants respectfully request withdrawal of the rejections.

CONCLUSION

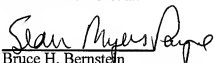
In view of the foregoing, it is submitted that the Examiner's rejections should be withdrawn. Entry and consideration of the present amendment, reconsideration of the outstanding Office Action, and allowance of the present application and all of the claims therein are respectfully requested and now believed to be appropriate.

Any amendments to the claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Should the Commissioner determine that any extension of time is required in order to render this response timely and/or complete, a formal request for an extension of time, under 37 C.F.R. §1.136(a), is herewith made in an amount equal to the time period required to render this response timely and/or complete. The Commissioner is authorized to charge any required extension of time fee under 37 C.F.R. §1.17 to Deposit Account No. 19-0089.

If the Examiner has any questions, or wishes to discuss this matter, the Examiner is respectfully requested to contact the undersigned at the below-listed telephone number.

Respectfully submitted,
Susumu MUTO et al.



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